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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/619,944 | WILSON ET AL. | |
| | Examiner | Art Unit | |
| | JONATHAN G. STERRETT | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12,14,16-26,28-30,32-36,38,39,41 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12, 14, 16-26, 28-30, 32-36, 38, 39, 41 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

2. This **Final Office Action** is responsive to the amendment filed 1-17-08. Currently **Claims 1-12, 14, 16-26, 28-30, 32-36, 38, 39, 41 and 42** are pending.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### *Response to Arguments*

4. The applicant's arguments have been fully considered but they are not persuasive.

5. The applicant argues with respect to Claim 1, 14, 18 and 28 that the claims are statutory under 35 USC 101.

The examiner respectfully disagrees.

While the applicant argues that the claims provide a useful, concrete and tangible result, this is not the issue here. The issue is that the claims describe printed material

(i.e. software per se is printed material and not statutory under 35 USC 101. For software to be statutory it needs to embodied on a computer readable medium).

Claim 1 is a system claim that is comprised of an interface and modules. An interface and modules can be interpreted as being implemented using only software per se. Software per se is considered printed matter and is not statutory under 35 USC 101.

Claims 14, 18 and 28 are systems that recite a memory where the memory includes the modules and interfaces. The fact that the system comprises a memory where the modules and interfaces are included in the memory further supports the examiner's position that the modules and interfaces are software per se (i.e. it is running in the memory).

6. The applicant argues that Weigel's teaching fails to teach basing the scheduling on a "current" location of the technician.

The examiner respectfully disagrees.

The applicant provides no definition of what "current" means in the specification with the required "clarity, deliberateness or precision"1. Therefor, the examiner turns to the Merriam-Webster's Collegiate Dictionary 10th Edition for a definition as to what "current" means.

Webster's defines "current" as "most recent". Since Weigel teaches using the location of the technician that is "most recent" in assigning routes, i.e. based on their currently assigned geographic location (see page 119 col 1 line 31-38), i.e. their starting

point is the "current location". Additionally Webster's defines "current" as "generally accepted, used, practiced or prevalent at the moment". Since the seed point and starting point of the technician's location is used in scheduling routes and stops, andthese locations are the "generally accepted, used and practiced" at the time of the scheduling, then Weigel meets the claimed limitation of assigning based on a "current" location.

"Current" does not necessarily mean "instantaneous" or "real time". Current could mean 'current' day, 'current' week or even 'current' year. The examiner would respectfully point out to the applicant how extremely broad the term "current" is, even and especially in the claim context of a "first current location".

7. The applicant argues on page 12 that Weigel fails to teach a global positioning system.

The examiner respectfully disagrees.

The claim cites a "current position" indicated by a global positioning system.

With regards to the term "current position", the examiner states that Weigel teaches a "current position" as can be understood applying a broadest reasonable interpretation[1] as is discussed above to the term "current", since absent a definition set

[1] [T]he Board is *required* to use a different standard for construing claims than that used by district courts. We have held that it is *error for the Board to apply the mode of claim interpretation that is used by courts in litigation*, when interpreting the claims of issued patents in connection with determinations of infringement and validity. Instead, as we explained above, the PTO is obligated to give claims their *broadest reasonable interpretation* during examination. [Emphasis added.]" *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004).

out in the specification with "clarity, deliberateness and precision", the examiner again applies the definitions from Webster's regarding the term "current position".

Similarly, the examiner applies the broadest reasonable interpretation as to what a "global positioning system" is. The examiner notes that the claims do not say "GPS" or "Global Positioning System" or even "the GPS" or "the global positioning system", which are understood in the art to be the satellite-based GPS, but rather "a global positioning system". Weigel teaches a GIS system (i.e. a Geographic Information System) that relies on maps and street addresses to indicate particular addresses and routes. This GIS provides input to the routing and scheduling system to provide a seed point (i.e. a starting point and "a current location" as discussed above, per definition) for use in scheduling and arranging routes. Since the routes and places as provided by Weigel's ArcView system provide unique addresses that provide a global reference (e.g. the addresses provided by the GIS system are understood to be globally unique) to those addresses, then the examiner maintains that the GIS system provides for global positioning. The ArcView System utilized by Weigel's invention is a system in that it is a software package that runs on a computer. Thus, since it provides a "current location" and provides for a "global position" of the technician and is a system (i.e. software application running on a computer with a processor and memory), it meets the claimed limitations.

On page 115 column 2, Weigel teaches the GIS system displaying the stops on a technician's route (i.e. a first current location and a second current location).

8. The applicant argues on page 12 that Weigel fails to teach a web-based interface accessible to a CLEC and where the technician is associated with an ILEC.

The examiner disagrees.

Providing an interface accessible to a CLEC and where the technician is associated with an ILEC were the subject of Official Notices. These limitations were rejected using the cited references of Weigel, Bogart and Lesaint in combination with Official Notice.

9. The applicant argues on page 13 with respect to Claim 14 that the cited references fail to teach assigning a task to a technician while they are engaged in a current task.

The examiner respectfully disagrees.

Lesaint teaches assigning a task to a technician while they are engaged in a current task (column 11 line 45-55, the scheduler can allocate a task to a technician based on the estimated duration of the task that they are on, i.e. they are scheduled based on when they are estimated to finish their current task).

10. The applicant argues on page 13 with respect to Claim 16 that the cited references fail to teach the use of a global positioning system .

The examiner respectfully disagrees.

As is noted above, a "global positioning system" according to a broadest reasonable interpretation is the GIS system disclosed by Weigel in scheduling technicians.

11. The applicant argues on page 14 with respect to Claim 30 that the cited references fail to teach near real time Global Positioning System data. Furthermore the applicant has attempted to traverse the Official Notice taken.

The examiner respectfully disagrees.

This particular claim limitation was not addressed by Weigel, Lesaint or Bogart, but rather was the subject of an Official Notice. The applicant has attempted to traverse the Official Notice regarding the use of GPS data (e.g. Magellan(TM), Glonass), however the traversal is lacking because the applicant has not explained why the use of the GPS data in indicating position information is not old and well known. Nonetheless, the support for the Official Notice can be found in Hall US 6,026,375 (abstract) regarding using GPS data.

Furthermore, the applicant's assertion that the rejection of Claim 30 fails to show how GPS data would be included in the combined teachings is not borne out by the rejection. The rejection of Claim 30 discusses the use of GIS (i.e. mapping data that indicates position) and how GPS data (which also indicates position) would be included into the combined teachings of the cited references to produce a result. A GIS system provides position information that is not real time or near real time. A GPS system provides near real time position information. The motivation of improving scheduling

and position determination using GPS was given (i.e. the TSM test). However, even assuming arguendo that somehow the examiner's rationale was deficient, since both the cited references and the Official Notice regarding GPS both address position data, the cited references and the Official Notice would be obvious to combine according to KSR since using GPS positional data would provide a predictable result.

12. The applicant argues with respect to claim 30 on page 15 that Weigel does not teach assigning a service request based on a first current location.

The examiner respectfully disagrees.

As discussed above with regards to Claim 1, Weigel teaches assigning a service request based on a current location.

13. The applicant argues with respect to Claim 34 on page 16 that the official notice regarding a CLEC accessing an interface is improper.

The examiner respectfully disagrees.

On page 10 of the Office Action of 4-5-2007, the applicant challenged official notice regarding the official notice taken regarding a CLEC accessing a service request interface. The same reference given then applies here also (Maglione, "Electric Perspectives", 2001). The examiner notes that the traversal is not deemed effective since the applicant has not provided adequate information or argument so that on its face a reasonable doubt regarding the taking of Official Notice

14. The applicant argues on page 16 with respect to the motivation to combine the references to reject claims 1-12, 14, 16, 17, 30, 32-36 and 42. The applicant argues that the combination is made based upon hindsight reasoning.

The examiner respectfully disagrees.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, the combination of the cited references to anticipate the claim limitations provides a predictable result.

Weigel addresses scheduling of work orders for technicians, taking into account the time to perform the work and the time required to go from one stop to another. Bogart addresses using historical data to predict how much time a person will take to do a task. The inclusion of this technique into Weigel does not destroy the functionality of either's teaching. The fact that Weigel is addressing issues with scheduling technicians for appliance home repair and that Bogart is addressing predicting job performance for call center technicians is irrelevant. Bogart's teachings are totally portable into Weigel and would improve Weigel by increasing the accuracy of Weigel's method by improving

the estimation of work time by the individual technicians. Similarly, Lesaint addresses a two step process for scheduling technicians. The first step is a macro scheduling approach similar to the scheduling optimization algorithm (heuristic) taught by Weigel. The second step taught by Lesaint is a quick optimization process run in series with the first where the second handles situations that arise on a daily basis. Lesaint's teachings are similarly portable into Weigel because Lesaint teaches a second-step optimization improves scheduling that is required during the day without having to run the massive, computationally complex scheduling first step (where Lesaint's first step is similar to the optimization algorithm run at the beginning of the day in Weigel's approach). Lesaint's incorporation into Weigel provides for a predictable result and would improve Weigel by adding the second step optimization. Both Weigel and Lesaint are addressing improving efficiency of scheduling field service personnel and thus are analogous art. Combining Lesaint into Weigel does not destroy Weigel but rather improves it, and thus a person of ordinary skill in the art would recognize the benefit of the modification.

15. The applicant argues on page 17 with respect to Claim 18 that the cited references fail to teach assigning a first task fo a service request via a mobile technician interface and to assign a second task of the service request via a frame order management system interface.

The examiner respectfully disagrees.

Norand teaches an interface for technicians in the field to receive task assignments (see Norand Reference D page 1 para 2, the system assigns calls to those

technicians carrying the mobile computer in the field). The fact that the applicant is claiming two different interfaces and assigning two different tasks (i.e. a first task and a second task) does not distinguish over the prior art. The assignment of service calls (see para 2)" includes at least a first task (i.e. a first service call) and a second task (i.e. a second service call since more than one call is assigned). Claiming two different interface modules does not patentably distinguish over the prior art (see In re Wolfe, 116 USPQ 443,444 (CCPA 1961)) and see In re Harza, 124 USPQ 378 (CCPA 1960) "Mere duplication of parts has no patentable significance unless new and unexpected result is produced").

Furthermore the labels in the claims, i.e. a “mobile technician” interface and a “frame order management system” interface are non functional. These claims do not distinguish over what is taught by Norand, since Norand teaches a user interface. (The examiner further notes that unless there is a positive recitation of what “frame order management” and “mobile technician” are in the claims, then the interfaces do not distinguish over what is taught by Norand).

In further support of this argument the applicant alleges that the rejection is made over an assertion of common knowledge in the art. The examiner would respectfully point out to the applicant that the rejection was made over what is well established, as per above, that mere duplication of parts has no patentable significance, unless new and unexpected result is produced.

The applicant further argues (on bottom of page 18 – top of page 19) that a frame order management system can provide a method of directing manipulation of

central office management systems. However, there is no such recitation of manipulation of "central office management systems" in the claim.

The applicant further argues with respect to Claim 18 on page 19 that Norand fails to teach a web-based order status reporting interface. Reference C page 2 para 1 of Norand teaches that the mobile wireless computing platform provides internet and web browsing capability. Reference B of Norand page 2 para 1 teaches that dispatchers can receive real time status updates from the field. The limitations of Claim 18 are addressed by an obvious combination of the teachings contained within Norand.

16. The applicant argues with respect to Claim 25 on page 19 that Norand fails to teach an inventory provisioning interface configured to access a public switch telephone network inventory system.

The examiner respectfully disagrees.

The Norand teaches a technician interface that accesses a network system. The examiner notes that the terms "inventory provisioning" and "public switch telephone network" are non functional descriptive material and do not patentably distinguish the invention of the Norand references. In further support of the examiner's position, the claim does not recite any functionality associated with the connection of the interface to the system (i.e. the interface connects to the system to do what?).

17. The applicant argues with respect to claim 28 on page 19 that the cited references fail to teach at least one web page that is configured to display a service

request status that is provided by an order status monitoring module associated with service order completion data and frame order completion data.

The examiner respectfully disagrees.

Norand in Reference A page1 para 3 teaches providing an order status. As noted in the office action, Norand does not teach performing this using a webpage. Official Notice was taken that providing information, such as the order status information taught by Norand is old and well known in the art. The Norand reference teaches that the Norand system can provided webpages (Reference C page 2 para 1). The limitations of providing a status interface that shows order status is a combination of elements within the Norand reference. Claim 28 is claiming order status data being retrieved from two different systems ( a frame order management system and a technician monitoring system) with the resulting order status data being displayed. Norand teaches order status data being retrieved from at least one system and being displayed (see Reference A page 2 para 4, 6). Claim 28 does not distinguish over the prior art because it interfaces with two different systems to retrieve data (as noted above, duplication of parts does not distinguish over the prior art absent unexpected results). As is noted in the rejection the display of status information by Norand is an obvious modification of what is claimed because: 1. displaying information from two different systems when a reference teaches displaying information from one system does not patentably distinguish over the reference. 2. displaying information on a computer device using a webpage when a reference teaches: a) displaying the same order status information and b) teaches that its device can also display webpages.

According to KSR a) and b) above would be obvious combinations because they are elements known in the art and could be combined to produce a predictable result.

18. The applicant argues with respect to Claim 41 on page 21 that Norand fails to teach a status display of a first task and a second task..

The examiner respectfully disagrees.

Norand teaches the use of the internet and webpages in the mobile dispatching system. Norand teaches the receiving of status updates over its system by dispatchers. The cited limitations in Claim 41 are an obvious combination Of what is already contained in Norand (see Reference D page 1 para 2;page 2 para 1 and Reference C page 2 para 1).

19. The applicant argues with respect to claim 38 on page 22 that the cited references fail to teach assigning a first task to a technician via a mobile technician interface and assigning a second tasks to a second technician via frame order management system interface.

The examiner respectfully disagrees.

The labels describing the interfaces a "mobile technician" interface and a "frame order management system" interface are non functional labels. In the method of Claim 38, there is no functional positive recitation for what these "labels" do. There is no

positive functional recitation of "mobile technician" and "frame order management system" such that it would distinguish over the prior art.

Additionally, having two different interfaces that interface with different users and assigning different tasks (i.e. a first task and a second task) does not patentably distinguish over a single interface that interfaces with different users.

Norand teaches assigning of tasks to technicians using a single interface. Norand teaches more than one call (i.e. service calls) are assigned to technicians. While Norand does not explicitly teach two separate interfaces for technicians to interface with in the receiving and transmitting of service call (i.e. task) information, the cited limitations do not distinguish over the prior art of Norand. (see In re Wolfe, 116 USPQ 443, 444 (CCPA 1961)) and see In re Harza, 124 USPQ 378 (CCPA 1960) "Mere duplication of parts has no patentable significance unless new and unexpected result is produced").

20. The applicant argues with respect to claim 39 on page 22 that Norand fails to teach service order completion data associated with a first task and frame order completion data associated with a second task (where both tasks are related to the service request).

The examiner respectfully disagrees.

The engineer's handheld interface, as taught by Norand, shows when an engineer throws a switch, the COSMOS system (i.e. the frame order system) would also have to show that the switch was thrown in order for the service order to be shown as

complete, since the work orders (i.e. service orders) are downloaded into COSMOS first. So unless "both" the engineer's handheld and COSMOS shows the frame order and service order information as complete, then the overall order would not be shown as complete.

Additionally, as is discussed above, the terms “frame order management”, “frame order completion” and “service order completion” are non functional descriptive terms applied to the data being transferred and retrieved in Claim 38. In claim 39, the order is viewed as being complete when both sets of data related to a first task and a second task are completed. Norand teaches at least one task being completed (Reference A page 3 para 2, i.e. switches being thrown). Norand teaches that tasks related to service orders are complete when data is transferred showing them as being complete (i.e. switches being thrown). The applicant's claim of two different tasks being used to indicate an order is complete does not patentably distinguish over Norand’s teaching of a single task (and associated data) indicating that an order is complete. As discussed above, this is nothing than mere duplication of parts.

### *Claim Rejections - 35 USC § 101*

21. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claim 1-12, 14, 16-26, 28-29** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Under the statutory requirement of 35 U.S.C. § 101, a claimed invention must produce a useful, concrete, and tangible result. For a claim to be useful, it must yield a result that is specific, substantial, and credible (MPEP § 2107). A concrete result is one that is substantially repeatable, i.e., it produces substantially the same result over and over again (*In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000)*). In order to be tangible, a claimed invention must set forth a practical application that generates a real-world result, i.e., the claim must be more than a mere abstraction (*Benson, 409 U.S. at 71-72, 175 USPQ at 676-77*). Additionally, a claim may not preempt abstract ideas, laws of nature or natural phenomena nor may a claim preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves (*Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972)*). (Please refer to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" for further explanation of the statutory requirement of 35 U.S.C. § 101.)

Regarding **Claim 1**, a system is claimed composed of "interfaces" and "modules", which are computer programs per se, not clearly embodied on a computer readable medium. **Claims 14 and 18** are similar and **Claim 28** recites a web interface and various modules. Computer programs per se are printed matter and therefore not statutory. See MPEP 2106.01. **Claims 2-12, 16, 17, 19-26 and 29** depend on **Claims 1, 14, 18 and 28** and are therefore not statutory at least for the reasons given above for **Claims 1, 14, 18 and 28**.

***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. **Claims 1-12, 14, 16, 17 and 30-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigel** in view of **Bogart US 6,163,607** (hereinafter **Bogart**) and further in view of Lesaint US 6,578,005 (hereinafter **Lesaint**).

**Weigel,** Don; Cao, Buyang; "Applying GIS and OR Techniques to Solve Sears Technician-Dispatching and Home Delivery Problems", Jan/Feb 1999, Interfaces, 29, 1, ABI/INFORM Global, p.112.

Regarding **Claim 1**, Weigel teaches:

**a service request interface configured to communicate with a service request system**;

Page 113 paragraph 3 line 15-16, customers call in to communicate with the service request system.

Page 114 column 2 line 13-14, the EHDS/CARS interfaces with the mainframe to receive service orders.

**a dispatch system interface configured to communicate with a dispatch system; and**

Page 114 column 2 line 15-17, system uploads dispatching information, i.e. through a dispatch system interface configured to communicate with a dispatch system.

**a service assignment module configured to assign a service request to a technician from a pool of available technicians based on their skills and abilities and a first current location of the technician**

Page 116 column 1 line 20-26, the system (i.e. service assignment module) assigns service requests to technicians from a pool based on their skills and abilities to provide repair, i.e. their primary and secondary skills.

Page 118 column 2 para 1, 2, the GIS system utilizes the starting point of the technician each day as an input for the scheduling of a technician (i.e. their "first current" location where the examiner is considering current to be defined by Webster's as "generally accepted, used, practiced or prevalent at the moment" where at the moment the scheduling occurs the "current" location of the technician is taken to be the beginning point of their route.

**the service request received via the service request interface**,

Page 114 column 2 line 13-14, the EHDS/CARS interfaces with the mainframe to receive service orders

**notify the technician of the first service request via the dispatch system interface**.

Column 2 line 15-18, system has eliminated dispatchers from communicating with local workforce, thus the system notifies the technicians directly from the dispatch system interface.

Page 115 Figure at top of page – the technician is automatically provided with service manifests, directions and maps, i.e. notified of the service request through this interface.

**wherein the historical technician performance statistic includes an average tavel time to reach a service location associated with a service order and where service times at service locations are tracked.**

Page 116 column 1 line 26-29, average travel time is average completion time of a task associated with the service request since traveling to the location requiring service is a task associated with the service request.

Page 116 column 2 line 19-20 total service time is tracked for service calls (note transit time is tracked as a separate entity).

Weigel does not teach:

**Assigning a technician based at least in part on a historical technician performance statistic;**

Bogart teaches:

**Assigning a technician based at least in part on a historical technician performance statistic.**

Column 3 line 20-25, technicians historical performance is used to assign calls – see also column 5 line 36-40, call assignment is based on this historical performance.

Weigel and Bogart both address providing workforce scheduling, thus both Weigel and Bogart are analogous art.

Bogart teaches that scheduling an employee based on their historical performance helps maximize the performance of an organization by taking the individual performance level of the employees into account (column 3 line 6-10). Bogart further teaches that using a weighted average takes historical performance into account, but places a greater weight on performance that is more recent, to take into account improvements in performance the technician may experience over time.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel, regarding providing a service technician scheduling system, to include the step of basing scheduling at least in part on historical employee performance, as taught by Bogart, because it would maximize the performance of an organization by taking the individual performance level of the employees into account.

Weigel teaches a scheduling and dispatch system that primarily conducts scheduling for a days work for technicians. It estimates windows of completion for

various tasks and suggests that tasks may take longer than scheduled, but does not explicitly teach assigning requests based on receiving task completion data.

Weigel and Bogart do not teach:

**assign a second service request to the technician based at least in part on a second current location of the technician after receiving service order completion data and frame order completion data related to the first service request wherein the service order completion data and the frame order completion data related to the first service, request indicate that tasks associated with the first service request are complete.**

Lesaint teaches:

**assign a second service request to the technician based at least in part on a second current location of the technician after receiving service order completion data and frame order completion data related to the first service request wherein the service order completion data and the frame order completion data related to the first service, request indicate that tasks associated with the first service request are complete.**

Column 7 line 20-23, technicians are assigned second tasks based on indicating that their first task is complete. See line 23-25, these technicians are working on telecommunications network (i.e. performing service orders and frame (i.e infrastructure) orders). – see also column 7 line 60-67, the assignment of tasks depends

on their location (where they are and where the next task is – i.e. travel time is taken into account in scheduling).

Lesaint, Weigel and Bogart all address scheduling of workers to perform tasks, thus Lesaint, Weigel and Bogart are analogous art.

Lesaint teaches that in telecommunications network scheduling, that the duration of the tasks may be on order of magnitude of the response times (i.e. the scheduling requires real time allocation of resources). (see column 1 line 21-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Weigel and Bogart to include the real time scheduling approach of dynamically scheduling workers to next tasks based on receiving telecommunications network task repair completion data, because it would improve the assignment of tasks to resources.

Regarding **Claim 2**, Weigel teaches:

**a geo-location interface configured to access a global positioning system, the global positioning system indicating the first current location of the technician, the second current location of the technician or any combination thereof.**

page 119 column 1 line 31-35, the system accesses a GIS system to indicate location of a centroid (seed point) that indicates a location of the technician. The ArcView GIS system also provides a current location of the definition where the examiner is using "current" as defined above, i.e. the starting point of the route for a technician is their "current" location, since it is the location in practice or use by the GIS (i.e. the GPS system). The GIS provides for global positioning in determining an address for the starting point of the technician in scheduling routes since this address is unique (i.e. refers to a unique point on a map) and is understood as such globally.

The examiner notes that the claims cite a global positioning system (i.e. not a GPS system). Further since Weigel teaches a routing for technicians (where that route may be changed based on additional factors), that routing as indicated using the GIS system is a first through last current position of a technician since it indicates all the stops they will make. – see page 123 column 1 para 2; page 122 column 1 para 2, the traveling salesman solution used by Weigel in combination with the GIS system (i.e. a global positioning system) indicates the route for the day that includes a series of stops with time windows.

Regarding **Claim 3**, Weigel teaches:

**a service request status interface for accessing status data associated with the first service request; the second service request or any combination thereof.**

Column 2 line 13-19, the system provides online reports (i.e. through a service request status interface). These reports provide status data associated with the service request including various times, e.g. start and total service time.

Regarding **Claim 4**, Weigel teaches an online service request status interface, as per above in Claim 3, but does not teach:

**wherein the service request status interface is a web-based interface**, as per Claim 4 or **wherein the service request status interface is accessible to a competitive local exchange carrier**, as per Claim 5.

However, Official Notice is taken that it is old and well known in the art for interfaces, including status request interfaces, to be web-based, as per Claim 4 and accessible to a local utility (i.e. accessible to a CLEC). Providing web-based status interfaces (as per **Claim 4**) including those accessible to a CLEC, as per **Claim 5**, enable a local utility to access status inquiries flexibly from a variety of locations since they are accessing the interface through the internet and further provide for a status update on work orders.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel, regarding providing a service technician scheduling system and online status reporting, to include the step of providing a web-

based status interfaces (as per Claim 4) including those accessible through a dial-up connection (i.e. to a CLEC as per Claim 5) because it would provide a company who had dispatched field technicians to perform service orders with flexibility in accessing a service request status since they are accessing the interface through the internet and would provide the company with status information regarding work orders.

Further more regarding **Claim 5**, Weigel and Bogart do not teach service technician scheduling in the context of a telecommunications network. Lesaint teaches service technician scheduling in the context of a telecommunications network.

It is old and well known in the art for service technicians to be associated with a ILEC (e.g. a local phone company).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel, Bogart and Lesaint to include where the technician is associated with an ILEC, because it would provide for efficient scheduling of ILEC technicians in a dynamically changing service environment.

Regarding **Claim 6**, Weigel teaches:

**a system interface configured to access a operation management system**,

Page 114 column 2 line 13-15, Sears mainframes interfaces with the CARS/EHDS system (i.e. the operation management system since it manages both delivery and service requests).

**the service assignment module configured to transfer service requests to the operation management system via the system interface**.

Page 114 column 2 line 13-15, and Figure 2, page 115, CARS/EHDS receive service requests from the mainframe through the system interface.

Note the use of the term “frame” and “frame related” above comprise non-functional, descriptive language.

Also, it would have been obvious to adopt the above service system to a frame system to provide frame related service requests since it is old and well known in the art the frame systems require service and service requests.

Regarding **Claim 7**, Weigel does not teach:

**a scoring interface configured to access a technician scoring system, the technician scoring system storing an efficiency scoring associated with the technician**.

Bogart teaches:

**a scoring interface configured to access a technician scoring system, the**

**technician scoring system storing an efficiency scoring associated with the technician**

Column 2 line 25-30, the system (i.e. a scoring interface) stores scoring information (i.e. an efficiency) based on the employee's (i.e. technician's) performance during the last call-see also column 4 line 55-60.

Weigel and Bogart both address providing workforce scheduling, thus both Weigel and Bogart are analogous art.

Bogart teaches that scheduling an employee based on their historical performance helps maximize the performance of an organization by taking the individual performance level of the employees into account (column 3 line 6-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel, regarding providing a service technician scheduling system, to include the step of storing an employee's efficiency scoring, as taught by Bogart, because it would maximize the performance of an organization by taking the individual performance level of the employees into account.

Regarding **Claim 8**, Weigel teaches:

**a statistical knowledge interface configured to access a statistical knowledge system, the statistical knowledge system storing statistical data associated with the service request**.

Page 116 column 1 line 11-15 & 26, the assignment rules module accesses the system to store statistical information associated with the service request. In this case the statistical data is average travel time.

Regarding **Claim 9**, Weigel teaches tracking the number of completed service calls (i.e. requests), page 127 Table 2 "Completed Calls".

Weigel does not teach:

**a billing system interface configured to communicate with a billing system, the billing system to receive completion data associated with the service request**.

Official Notice is taken that it is old and well known in the art that Sears has a billing system to ensure customers are billed for the fulfillment of their service request.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel, regarding tracking the completion of service requests to include interfacing said completion data with a billing system to ensure that customers are billed upon the completion of service requests.

Regarding **Claim 10**, Weigel teaches:

**a user interface to provide data associated with the technician**.

Page 116 column 1 line 11-14, the assignment module allows entry of data associated with the technician to be entered and customized (i.e. thus a user interface).

Regarding **Claim 11**, Weigel teaches:

**wherein the user interface is a web enabled interface**.

Page 128 Column 2 line 18-25, the user interface used in assigning service requests, is also included in a web-based (i.e. web-enabled) application.

Regarding **Claim 12**, Weigel teaches the web enabled interface as per Claim 11 above, but does not teach:

**wherein the user interface includes a JAVA component**.

However, Official Notice is taken that it is old and well known in the art for a web application for an interface to include a Java component. The java language provides a way to easily and robustly incorporate various functionalities into a web browser.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Weigel and Bogart, regarding providing service dispatch capability and a web-based user interface, to include the step of wherein the

user interface includes a Java component, because it provides an easy and robust way to incorporate various functionalities into a web browser.

**Claims 14, 16, 17 and 30-36** recite similar limitations as those recited in **Claims 1-12** above, and are therefore rejected under the same rationale.

Furthermore regarding Claim 14, Weigel teaches the system running on a computer where data is uploaded into memory for processing (see page 114 column 2 para 2).

Furthermore regarding claim 30, Weigel teaches a GIS system that takes into account travel times and locations that technicians must be. Lesaint teaches that the location of the technician and their travel time to the next task is taken into account in scheduling and assigning tasks to them (Column 31 line 31-40). While Weigel, Lesaint and Bogart do not teach a near real time global positioning system (i.e. a "GPS" system) for use in scheduling, these devices are old and well known in the art to provide location indications of users carrying these devices in the field.

Since both Weigel and Lesaint take into account scheduling, dispatching and assignment of tasks where travel and location of the technician is a consideration, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined teachings of Weigel, Lesaint and Bogart to include the step of using near real time "GPS" as an input in scheduling, because it would improve the

accuracy of location determination and thus improve the accuracy of scheduling in a dynamic environment where location and travel time is an important factor in scheduling a technician's next task.

24. **Claims 18-26, 28, 29, 38 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Norand**'s mobile wireless Pen*key computer product offering (hereinafter **Norand**) in view of Lesaint US 6,578,005 (hereinafter **Lesaint**).

**Norand** is contained in the following references:

Norand.com webpage of 2-6-98, "NyNex utilizes Pen*Key® mobile computers to retrieve information and execute transfer activity", pp.1-4, retrieved from the internet: web.archive.org/web/19990206125452/www.norand.com/case_nynex_more.html, hereinafter **Reference A**).

Norand.com webpage of 2-6-98, "Norand – Field Service", pp.1-2, retrieved from the internet: web.archive.org/web/19990206122627/www.norand.com/sol_fieldservice_tech.html, hereinafter **Reference B**).

Norand.com webpage of 2-6-98, "Are you getting ready to catch the wireless wave", pp.1-8, retrieved from the internet: web.archive.org/web/19990206122343/www.norand.com/wp_wirelesswave.html, hereinafter **Reference C**).

Norand.com webpage of 2-6-98, "Introducing the Norand RapidREP™ Solution from Intermec Technologies Corporation", pp.1-3, retrieved from the internet: 19990206114807/www.norand.com/pr_rapidrep.html, hereinafter **Reference D**).

The above references are from Norand's website, all archived on February 6, 1998. Norand provided mobile computers that were configured using a variety of software and hardware configurations for a variety of field uses. In each case, users entered data that was recorded by the mobile laptop to wirelessly connect the user to a network from the field. Norand's mobile laptop also provided instructions to the mobile user depending on the situation and particular application.

While it is not clear or readily apparent that the disclosed functionalities were available in one packaged service or offering, these references clearly show that Norand, as a whole, made these functionalities available. These functionalities were all designed to provide information to a user working in the field, so that information was available at their fingertips –this automation was necessary to improve their productivity and make their jobs easier. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art of mobile wireless computing to offer any permutation of these functionalities to meet a mobile user's needs, thereby improving their productivity and making their tasks in the field easier. Therefore, it would have been obvious to combine the following limitations separately, as taught by the Norand references as laid out below.

Regarding **Claim 18**, Norand teaches:

**a memory;**

Reference C page 3 bottom, Norand's system is a computer system that utilizes computer memory

**a mobile technician interface configured to communicate with a mobile technician monitoring system**;

Reference A page 2 para 4, 6; the technician has a mobile interface to communicate with the monitoring system (i.e. the system receiving the technician's commands from the mobile Norand computer). The examiner notes that the terms "mobile technician monitoring" are non-functional descriptive material because they do not structurally affect the remainder of the claim.

**a frame order management system interface configured to communicate with a frame order management system**;

Reference A page 2 para 4, the mobile technician's interface is configured to communicate with a management system through an interface (i.e. Starmem – see also page 3 para 2 & page 2 para 2, Starmem is an interface the communicates with the Loop Assignment control system.

**a web based order status reporting interface; and**

Reference C page 2 para 1, web-based applications that support operations,

Reference B page 1 para 2, when a job (i.e. a service order) is complete, a button is pressed to begin the billing cycle (i.e. since the job is complete, i.e. the service order status, the customer is billed).

**an order status monitoring module configured to access the mobile technician monitoring system via the mobile technician interface to receive service order completion data associated with a service request**

Reference A page 2 para 1 & 6, a module receives data from the technician's mobile computer – this data is associated with a request. The technician sending a request to through a switch as part of an order is completion data associated with a service request.

**and configured to access the frame order management system via the frame order management system interface to receive frame order completion data associated with the service request**,

Reference A page 2 para 1 & 2, the server accesses the switch to receive completion data that the switch has been thrown – see also page 2 para 2, the data stored by COSMOS is frame order completion.

**and wherein the order status monitoring module is configured to provide an order status associated with the service request via the order status reporting interface**.

Reference A page 1 para 3, the records (i.e. including the orders for switch processing in page 2 para 1) are updated, i.e. provide an order status.

Norand teaches dispatching technicians, assigning them service requests in the field through their handheld computers, but does not teach assigning requests through two different interfaces (i.e. a mobile technician interface and a frame order

management system interface). However it is old and well known in the art that making functionalities separate that were integral does not make the differences patentably distinct (see In re Wolfe, 116 USPQ 443, 444 (CCPA 1961)) and see In re Harza, 124 USPQ 378 (CCPA 1960) "Mere duplication of parts has no patentable significance unless new and unexpected result is produced"). This is known to improve robustness and ease of repair by having separate parts.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand to include two separate interfaces for receiving service requests, because it would make the resulting system more fault tolerant and easier to repair by having two separate systems provide the interface functionality and it is further known that making functionalities separate that were integral does not provide a patentable distinction.

Regarding **Claim 19**, Norand teaches completing a service order as discussed above. Norand teaches a order status monitoring module, service order completion data and frame order completion data, as discussed above.

**wherein the order status monitoring module reports a complete status associated with the service request upon receipt of both the service order completion data and the frame order completion data**.

Reference A page 2 para 6, the module reports a complete status when the user touches the 'throw' button.

Regarding **Claim 20**, Norand teaches:

**an internal service management interface configured to communicate with an internal service management system,**

Reference A page 2 para 2, outside plant engineer enters work orders through an interface into the system.

**and wherein the order status monitoring module is configured to access the internal service management system to receive the internal service completion data**.

Reference A page 2 para 2, the system (COSMOS) stores the service completion data.

Regarding **Claim 21**, Norand teaches:

**a service order request interface configured to communicate with a service order request system; and**

Reference A page 2 para 2, the entering of orders into COSMOS (i.e. a request interface communicating with a request system, i.e. COSMOS).

**an order dispatch module configured to access the service order request system to receive the service request.**

Reference B page 2 para 2, dispatchers assign calls through assigning the service order request to technician's in the field. – see also page 1 para 2, the dispatching of service orders to the field is automated, i.e. through a dispatch module.

Regarding **Claim 22**, Norand teaches:

**a user interface configured to provide configurable views of data associated with the mobile technician monitoring system, the frame order management system, and the order status monitoring module**.

Reference A page 3 para 1 & page 2 para 6, a backlit display provides for a configurable view of data associated with the systems and monitoring module discussed above. The views that allow a user to identify a switch and through it on the Norand display also provide for configurable views of data associated with the systems and module, as the switch data is associated with these systems and module.

Regarding **Claim 23**, Norand teaches:

**wherein the user interface includes a web-enabled interface**.

Reference D page 2 para 1, web-based applications (i.e. interfaces) that support operations are part of the Norand offering.

Regarding **Claim 24**, Norand teaches providing a user interface that runs on a portable PC that is running windows (Ref C page 6 para 3) and that is providing the latest wireless internet applicatiosn (Ref C page 2 para 1). Norand does teach where the user interface includes a JAVA interface component.

However, Official Notice is taken that it is old and well known in the art of internet computing to use interfaces that utilize object oriented programming methods, including using JAVA components.

JAVA components are a known, reliable way to provide an interface that accesses the internet.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand, regarding providing for wireless PC connectivity to the internet, to include the step of where the user interface includes a JAVA component, because it would provide a reliable way to interface the internet.

Regarding **Claim 25**, Norand teaches:

**An inventory provisioning interface configured to access a public switch telephone network inventory system**.

Reference D page 6 para 3, the handheld (i.e. interface) is configured to provide access to an ERP system. The examiner notes that the terms “inventory provisioning” and “public switch telephone network” are non functional descriptive material and do not patentably distinguish the invention of the Norand references.

Regarding **Claim 26**, Norand teaches:

**Wherein the order status reporting interface is configured to provide access to a competitive local exchange carrier**.

Reference A page 2 para 2, 3, the mobile computer (i.e. interface) can access a carrier (i.e. the central office switch) see also para 6, the interface can access the carrier to throw switches. The examiner notes that the terms "order status reporting" and "competitive local exchange" are non functional descriptive material and do not patentably distinguish the invention of the Norand references.

**Claims 28, 29, 38, 39, 41 and 42** recite similar limitations to those addressed by the rejection of **Claims 18-26** above and are therefore rejected under the same rationale.

Furthermore regarding **Claim 28**, Norand teaches that the mobile wireless computing platform allows for internet access and web browsing. Norand teaches that dispatchers can use the system to receive status updates on service calls (Reference B page 2 para 1). While Norand does not explicitly teach that the dispatcher is receiving the status update via a webpage, Official Notice is taken that it is old and well known to use web pages to display information based on receiving information over the internet to take advantage of the internet's wide coverage and ease of use. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand regarding dispatchers receiving status update information from the field and the use of webpages on the mobile computing platforms to provide dispatchers the webpage and internet capability to receive the status updates because it would take advantage of the widespread availability and ease of use of the internet.

Furthermore regarding **Claim 41**, the limitations are taught above regarding displaying task status using webpages displayed over the internet. Since Norand teaches a system that manages service calls (i.e. a first task and a second task), it would further be obvious to display the first task and second task on a webpage, because it is old and well known in the art of the internet to use the widespread availability and ease of use of the internet to display information.

Furthermore regarding **Claim 42**, since Norand teaches dispatching technicians to service calls (Reference D page 2 para 1 – since the system is for management of "field" service calls, this implies that the service locations differ in the field), this would include at least a first service location and a second service location.

## ***Conclusion***

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jonathan G. Sterrett/

Primary Examiner, Art Unit 3623

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